

CLAIMS

1. A method of manufacturing a semiconductor device sealed in a cured silicone body by placing a semiconductor device into a mold and subjecting a curable silicone composition that fills the spaces between said mold and said semiconductor device to compression molding, wherein said curable silicone composition comprises the following components:
- 5 (A) an organopolysiloxane having at least two alkenyl groups per molecule; (B) an organopolysiloxane having at least two silicon-bonded hydrogen atoms per molecule; (C) a platinum-type catalyst; and (D) a filler, wherein either said component (A) contains siloxane units of formula $\text{RSiO}_{3/2}$ (where R is a univalent hydrocarbon group) and/or
- 10 siloxane units of formula $\text{SiO}_{4/2}$, or said component (B) contains siloxane units of formula $\text{R}'\text{SiO}_{3/2}$ (where R' is a hydrogen atom or a univalent hydrocarbon that is free of aliphatic unsaturated carbon-carbon bonds) and/or siloxane units of formula $\text{SiO}_{4/2}$, or any of components (A) and (B) contains said siloxane units.
2. The method of Claim 1, wherein either said component (A) contains siloxane units of
- 15 formula $\text{RSiO}_{3/2}$ (where R is a univalent hydrocarbon group) and/or a siloxane unit of formula $\text{SiO}_{4/2}$ and has a weight-average molecular weight as converted to standard polystyrene equal to or exceeding 1500, or component (B) contains siloxane units of formula $\text{R}'\text{SiO}_{3/2}$ (where R' is a hydrogen atom or a univalent hydrocarbon that is free of
- aliphatic unsaturated carbon-carbon bonds) and/or siloxane units of formula $\text{SiO}_{4/2}$ and has
- 20 a weight-average molecular weight as converted to standard polystyrene equal to or exceeding 1500, or any of components (A) and (B) contains said siloxane units and has a weight-average molecular weight as converted to standard polystyrene equal to or exceeding 1500.
3. The method of Claim 1, wherein an amount of said component (D) in the curable
- 25 silicone composition is equal to or exceeds 60 wt.%.
4. The method of Claim 1, wherein said curable silicone composition is a two-liquid type composition composed of a composition comprising components (A), (C), (D) as main components without component (B), and another composition comprising components (B), (D) as main components without component (C).

5. The method of Claim 1, wherein after the semiconductor device has been placed into a lower mold and the curable silicone composition has been fed into a space between an upper mold and the semiconductor device, the semiconductor device is clamped between said upper mold and said lower mold, and said curable silicone composition is subjected to compression molding.
6. The method of Claim 1, wherein a composite modulus of elasticity of the cured silicone body is equal to or below 1 GPa.
7. The method of Claim 1, wherein at least two semiconductor devices are sealed, and then the obtained sealed assembly is cut into separate sealed semiconductor devices.
- 10 8. The method of Claim 1, wherein said unsealed semiconductor device comprises semiconductor chips on a printed-circuit board electrically interconnected via bonding wires.
9. The method of Claim 8, wherein said curable silicone composition is supplied to the semiconductor chip on a printed-circuit board, and the connections between semiconductor chips and the bonding wires are sealed with the cured silicone body.
- 15 10. The method of Claim 1, wherein inner surfaces of the mold are covered with an attached release film.
11. The method of Claim 10, wherein the release film is attached to the inner surface of the mold by air suction.
- 20 12. A semiconductor device produced by the method according to any of Claims 1 through 11.